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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,202	12/01/2003	Wakahiro Kawai	N0520.0049/P049	9856
24998	7590	10/27/2006	EXAMINER	
DICKSTEIN SHAPIRO LLP			LE, THAO P	
1825 EYE STREET NW			ART UNIT	
Washington, DC 20006-5403			PAPER NUMBER	
			2818	

DATE MAILED: 10/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/724,202

Applicant(s)

KAWAI ET AL.

Examiner

Thao P. Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 August 2006.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5, 16-21 and 23 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-5, 16-21, 23 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 01 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 12/01/03, 08/23/06  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

### **Claim Rejections**

Claims 1-5, 16-21, 23 are pending.

### ***Election/Restrictions***

Applicant's election without traverse of claims 1-5, 16-21, 23 in the reply filed on 08/08/06 is acknowledged.

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on 12/01/03, 08/23/06 were filed on and after the mailing date of the application. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Claim Objection***

Claim 1 is objected to because lines 21-22 of claim 1 have no spaces between words.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA

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1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

**Claims 1, 16 are rejected** under the judicially created doctrine of obviousness-type double patenting as being unpatentable over **claims 1, 4 of Patent No. 6,406,990**. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1 and 4 of Patent No. 6,406,990 disclose all limitations disclosed in claims 1, 16 of present application: having a thermoplastic resin coat covering the electrode area of the wiring pattern, pressing the terminal bump of the chip onto the resin in a melt state, applying ultrasonic wave, pressing the bump against the resin by continually applying ultrasonic wave to the bump, bonding the chip on the wiring by cooling and solidifying the melted resin (claims 1 and 4 of Patent No. 6,406,990).

The remaining claims 2-5, 17-21, 23 are dependent from the rejected claims and therefore considered indefinite.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 16-21, 23 rejected under 35 U.S.C. 103(a) as being unpatentable over Kawai, EP 1 104 017, hereinafter Kawai'017, in view of Kajiwara et al., EP 1 205 970, hereinafter Kajiwara (both were submitted as IDS on 08/23/06).

Regarding claims 1, 16, Kawai'017 discloses a method for forming an electronic component module or readable data carrier having a semiconductor bear chip packaged on a wiring board (See Abstract, Fig. 8D, Cols. 1-26, the method including:

preparing the sheet wiring board 7 including a wiring pattern 6, a thermoplastic resin film 4a covering the electrode area 10 on the wiring pattern;

pressing a bump 9 of the semiconductor bear chip onto the thermoplastic resin film in a melted state where the thermoplastic resin film is heated and softened, while applying a ultrasonic wave, so that the melted thermoplastic resin film is shoved away by the bump of the chip and the bump reaches a surface of the thermoplastic resin film [0051];

pressing the bump against the resin film by continually applying ultrasonic wave to the bump, and the bump makes contact with the electrode area [0051-0055];

ultrasonically bonding the bump and the electrode area by continually applying ultrasonic wave in a state where the bump and the electrode area are contacted [0056-0058];

bonding the chip main body on the wiring board by cooling and solidifying the melted thermoplastic resin [0058].

Kawai'017 fails to disclose the formation of thermosetting resin film on the electrode area and covered by thermoplastic resin film, wherein the thermosetting resin film having insulating particles dispersed and included therein. However, Kajiwara discloses the forming of thermosetting resin film on the electrode area and wherein the thermosetting resin film having insulating particles dispersed and included therein (Fig. 1, layer 8). It would have been obvious to one having ordinary skill in the art at the time the invention was made to form a thermosetting resin film having insulating particles therein on the electrode area as disclosed in Kajiwara in the method of Kawai'017 because the thermosetting resin film having less moisture and less expand under high temperature or humidity in order to provide a better electrical connections, to reduce electrical resistance, and to avoid void free in the filling.

Regarding claim 17, Kawai'017 discloses the readable data carrier wherein the film-like resin substrate is used for a data carrier main body.

Regarding claims 2-3, 18-19, 23, Kajiwara discloses using SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, or tetrafluoroethylene as insulating particles in the thermosetting resin film.

Regarding claims 4-5, 20-21, it would have been obvious to one having ordinary skill in the art that the selection of such parameters such as **energy, concentration, temperature, time, molar fraction, content, depth, thickness, etc.**, would have been obvious and involve routine optimization which has been held to be within the level of ordinary skill in the art. "Normally, it is to be expected that a change in **energy, concentration, temperature, time, molar fraction, content, depth, thickness, etc.**, or in combination of the parameters would be an unpatentable modification. Under some circumstances, however, changes such as these may impart patentability to a process if the particular ranges claimed produce a new and unexpected result which is different in kind and not merely degree from the results of the prior art ... such ranges are termed "critical ranges and the applicant has the burden of proving such criticality.... More particularly, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller* 105 USPQ233, 255 (CCPA 1955). See also *In re Waite* 77 USPQ 586 (CCPA 1948); *In re Scherl* 70 USPQ 204 (CCPA 1946); *In re Irmischer* 66 USPQ 314 (CCPA 1945); *In re Norman* 66 USPQ 308 (CCPA 1945); *In re Swenson* 56 USPQ 372 (CCPA 1942); *In re Sola* 25 USPQ 433 (CCPA 1935); *In re Dreyfus* 24 USPQ 52 (CCPA 1934).

When responding to the office action, Applicants' are advice to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the day of this letter. Failure to respond within the period for response will cause the application to become abandoned (see M.P.E.P 710.02(b)).

### ***Conclusion***

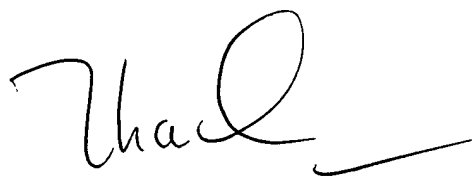
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao P. Le whose telephone number is 571-272-1785. The examiner can normally be reached on M-F (8-6).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor David C. Nelms can be reached on 571-272-1787.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Thao P. Le', followed by a long horizontal stroke.

Thao P. Le  
Primary Examiner  
Art Unit 2818  
October 24, 2006.